



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/608,751	06/27/2003	Pietro Arturo Giovanni Bernasconi	Bernasconi 4 (LCNT/125269)	7188
26291	7590	01/26/2005	EXAMINER	
MOSER, PATTERSON & SHERIDAN L.L.P. 595 SHREWSBURY AVE, STE 100 FIRST FLOOR SHREWSBURY, NJ 07702			LEPISTO, RYAN A	
			ART UNIT	PAPER NUMBER
			2883	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/608,751

Applicant(s)

BERNASCONI, PIETRO ARTURO
GIOVANNI

Examiner

Ryan Lepisto

Art Unit

2883

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 June 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 7-17 is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☒ Claim(s) 4-6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>6/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The reference listed as C1 in the applicant's information disclosure statement (27 June 2003) has not been submitted to the office for consideration, therefore the reference has been lined through as not being in conformance and not considered.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. **Claims 1-3** are rejected under 35 U.S.C. 102(e) as being anticipated by **Bernasconi et al (US 6,549,698 B2)** (Bernasconi). Bernasconi teaches a method for increasing the transmission efficiency of a PxQ arrayed waveguide grating (AWG) (Fig. 1, column 1 lines 45-68) comprising arranging the spacing and position of the P input ports (104) and the Q output ports (105) of the AWG so as to increase a signal transmission coefficient from each of the P input ports (104) to the Q output ports (105) (claim 3) wherein each of the P input ports (104) comprises Q wavelengths (claim 1) that are evenly spaced in frequency (column 6 lines 34-36).

Allowable Subject Matter

3. **Claims 7-17** are allowed.

With regard to claim 7: The following is a statement of reasons for the indication of allowable subject matter: This claim is allowable over the prior art of record because the latter, either alone or in combination, does not disclose nor render obvious a AWG wherein an initial position of the first input port is chosen to be near the center of the AWG and an initial position of the remaining inputs are defined by images of the wavelengths dispersed by the central output port, a final position of the inputs defined by a variation of the defined initial positions of the input ports so that maximum of each one of the respective angular spreads is minimized and wherein the position of the output ports are positioned in the center of their respective final angular spreads of images of the wavelengths expected to converge for each port, in combination with the rest of the claimed limitations.

With regard to claims 8-17: These claims are allowed because they are dependent of the limitations of claim 7.

4. **Claims 4-6** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

These claims would be allowable over the prior art of record if rewritten in independent form including all of the limitations of the base claim and any intervening claims because the latter, either alone or in combination, does not disclose nor render obvious a method of increasing the transmission efficiency of a AWG comprising the an

Art Unit: 2883

initial position of the first input port that is chosen to be near the center of the AWG and an initial position of the remaining inputs are defined by images of the wavelengths dispersed by the central output port, a final position of the inputs defined by a variation of the defined initial positions of the input ports so that maximum of each one of the respective angular spreads is minimized and wherein the position of the output ports are positioned in the center of their respective final angular spreads of images of the wavelengths expected to converge for each port, in combination with the rest of the claimed limitations.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Bernasconi et al (US 6,381,383 B1) is related to the Bernasconi references used in this action.
- Nicolas (US 200/0089721 A1) teaches an AWG that serves as a multi-order cross-connect where output waveguide spacing is critical.
- All of the following references teach AWGs wherein the spacing of the output waveguides play critical role in system specifications and characteristics:
Dragone (US 5,136,671), Wang et al (US 5,745,612), Mestric (US 5,822,481), Dragone (US 6,058,233), Lin et al (US 6,181,849 B1), Bergmann et al (US 6,351,583 B1), Nara et al (US 6,490,395 B1), Bulthuis et al (US 2003/0063858

Art Unit: 2883

A1), Dingel (US 6,597,841 B1), McGreer et al (US 6,678,446 B1), Bulthuis et al (US 6,768,842 B2), Tabuchi et al (US 6,810,167 B2), Kaneko (US 6,810,177 B2).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ryan Lepisto whose telephone number is (571) 272-1946. The examiner can normally be reached on M-F 7:30AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank Font can be reached on (571) 272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Ryan Lepisto

Art Unit 2883

Date: 1/18/05



Frank Font

Supervisory Patent Examiner

Technology Center 2800